1998

INTERMEDIATE

MATHEMATICS

SCORING GUIDES

SESSION 2

Session: 2
Item: 1
Page: 18
Content Standard(s): 5 Mathematical Systems and Number Theory
Process Standard(s): 3.3

Score Points:

4 points

The student's response fully addresses the performance event.

The response:

- demonstrates knowledge of the mathematical concepts and principles needed to complete the event.
- communicates all process components that lead to an appropriate and systematic solution.
- may have only minor flaws with no effect on the reasonableness of the solution.

3 points

The student's response substantially addresses the performance event.

The response:

- demonstrates knowledge of the mathematical concepts and principles needed to complete the event.
- communicates most process components that lead to an appropriate and systematic solution.
- may have only minor flaws with minimal effect on the reasonableness of the solution.

2 points

The student's response partially addresses the performance event.

The response:

- demonstrates a limited knowledge of the mathematical concepts and principles needed to complete the event.
- communicates some process components that lead to an appropriate and systematic solution.
- may have flaws or extraneous information that indicates some lack of understanding or confusion.

Session: 2
Item: 1
Page: 18
Content Standard(s): 5 Mathematical Systems and Number Theory
Process Standard(s): 3.3

1 point

The student's response minimally addresses the performance event.

The response:

- demonstrates a limited knowledge of the mathematical concepts and principles needed to complete the event.
- communicates few or no process components that lead to an appropriate and systematic solution.
- may have flaws or extraneous information that indicates lack of understanding or confusion.

0 points

Other-Responses not addressed by the Condition Codes:

Examples of "0":

Work consists of copying the prompt information only.
Work indicates no mathematical understanding of the task.

Session: 2
Item: 1
Page: 18
Content Standard(s): 5 Mathematical Systems and Number Theory
Process Standard(s): 3.3

Sample Solution:

119 (students marched in parade)

Lists multiples of 7 through 126

7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98, 105, 112, 119, 126

Determines which multiple meets the requirement of one student short in each row (remainder of 3 for 4; remainder of 4 for 5; remainder of 5 for 6)
(Using the remainder rather than a decimal conveys the understanding that each of the final rows would be short by 1 student.)

$119 \div 6 = 19$ r 5 $119 \div 5 = 23$ r 4 $119 \div 4 = 29$ r 3

OR

Other valid process

Note: Student must communicate process to receive full credit.

Scoring Comments:

Student must show where 119 comes from. If student only gives answer of 119, should receive 1 point.

Session: 2
Item: 2
Page: 19
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 3.1

Exemplary Response:

- **2,400** (cells)

AND

- 8 x 12 = 96 (square inches)
  96x25

  OR

  Other valid process

Score Points:

2 points	Exemplary Response
1 point	Correct process; error in computation OR Correct answer OR Correct area with process shown
0 points	Other

Scoring Comments:

8x12=96
96 × **25 = 2400** receives 2 points.

Session: 2
Item: 3
Page: 20
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 1.4

Exemplary Response:

- Accept angle measure in the range of 33" to 37".

Score Points:

1 point	Exemplary Response
0 points	Other

Session: 2
Item: 4
Page: 21
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.4

Exemplary Response:

- A temperature within the range of 29.9 (°C) to 32.4 (°C)

AND

- $C = \frac{5}{9}(86 - 32)$
  $c = \frac{5}{9}(54)$
  $C = 5(6)$

  OR

  Other valid process

Score Points:

2 points	Exemplary Response
1 point	Correct process; error in computation OR Correct answer
0 points	Other

Session: 2
Item: 5
Page: 23
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 3.1

Exemplary Response:

- 120 (square feet)

AND

- $\frac{1 \text{ in}}{8 \text{ ft}} = \frac{1.5 \text{ in}}{x \text{ ft}}$

  x = 12 feet

  $\frac{1 \text{ in}}{8 \text{ ft}} = \frac{2.5 \text{ in}}{y \text{ ft}}$

  $y = 20$ feet

  OR

  Other valid process for converting measurements

AND

- $\frac{1}{2}$ **x 12x20**

  OR

  Other valid process for finding area

Note: As long as 12 and 20 appear on the page the student has satisfied the conversion process.

Session: 2
Item: 5
Page: 23
Content Standard(s): 2 Geometric/Spatial Sense and Measurement
Process Standard(s): 3.1

Score Points:

3 points	Exemplary Response
2 points	Correct processes; error in computation/labeling
1 point	One correct process shown with correct answer for that process OR Correct answer
0 points	Other

Scoring Comments:

Must convert to feet.

Session: 2
Item: 6
Page: 23
Content Standard(s): 4 Patterns and Relationships
Process Standard(s): 1.6

Exemplary Response:

- 48 (flowers)

AND

- Constructs table to find answer

Row	Flowers	Row	Flowers
1	4	7	28
2	8	8	32
3	12	9	36
4	16	10	40
5	20	11	44
6	24	12	48

OR

$1 \times 4 = 4$
$2 \times 4 = 8$
$3 \times 4 = 12$
$12 \times 4 = 48$

OR

Other valid process

Score Points:

2 points	Exemplary Response
1 point	Correct process; error in computation
	OR
	Correct answer
0 points	Other

Session: 2
Item: 7
Page: 24-25
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 4.1

Exemplary Response:

- Recommends garbage can B because it holds more garbage and will cost less

AND

- Justification includes the following:

  Wouldneed 6 of trash can A (165 ÷ 30 = 5.5 or 6)

  Would need 5 of trash can B (165 ÷ 34 = 4.9 or 5)

  Cost to purchase A (6 x $11.99 = $71.94) is higher than the cost to purchase B (5 x $13.99 = 69.95)

Score Points:

3 points	Exemplary Response
2 points	Correct recommendation with only partial justification OR Correct process shown in justification; error in computation causes wrong recommendation
1 point	Correct recommendation OR Partial justification with wrong recommendation
0 points	Other

Session: 2
Item: 7
Page: 24-25
Content Standard(s): 3 Data Analysis, Probability, and Statistics
Process Standard(s): 4.1

Scoring Comments:

Examples of partial justification:

1. 6cansofA
   5cansofB

2. $71.94 is cost of A
   $69.95 is cost of B

3. **6** cans of A cost $71.94

4. **5** cans of B cost $69.95

Session: 2
Item: 8
Page: 26
Content Standard(s): 6 Discrete Mathematics
Process Standard(s): 1.6

Exemplary Response:

- 75 (seventh graders)

AND

- $5 \times 5 \times 3$

  OR

  Other valid method of finding all of the possibilities

Score Points:

2 points	Exemplary Response
1 point	Correct process; error in computation OR Correct answer
0 points	Other